

ill temper; and in following its spoor the furrows ploughed up in the ground, and which are more or less made by all the different species, are so common as, when the ground is too hard to enable more than a faint mark to be seen, to prove to the hunter the species he is following. I have never seen more than three (a bull, a cow, and a calf) together. I have found them in considerable numbers from the Black Umfolosi river in Zululand all along the Ubombo range up towards the Limpopo, though as they near that river they become scarce, and I only know of one instance of their being found near the Zambesi. I have, however, no doubt that they existed at one time all over the thorn-country south of the Zambesi, as oral traditions of their ferocity are common among the Dutch hunters; and no doubt their own ill-temper accounts for their being now partially extinct in that district, self-defence on the hunter's part having caused their destruction; while lower down to the south-eastward, where no doubt they were originally more common, they are disappearing more rapidly than any other species. I have seen a considerable number of horns from Abyssinia, and they appear to me to resemble in size and shape those of this species, though perhaps a trifle longer; but until some one will describe the animal to which they belong, it is useless to make guesses which are not founded on sufficient data.

It will be seen from the above remarks how very limited my knowledge of the subject under discussion really is; nor should I have ventured to make them before you this evening had I not felt that it is only by each traveller describing what has actually come within his own observation that such questions as the number of species of any animal on so large a continent as Africa can ultimately be set at rest; and this must be my excuse should you feel that from my slender acquaintance with my subject I have been to any extent occupying your time to-night under false pretences.

6. List of Birds met with in North-eastern Queensland, chiefly at Rockingham Bay. By E. PIERSON RAMSAY, C.M.Z.S.—Part II.*

[Received December 28, 1875.]

174. *PTILINOPUS SWAINSONII* †.

This species is somewhat rare in the Rockingham-Bay district; a few only were obtained.

175. *LAMPROTRERON SUPERBUS*.

I found this, one of our most beautiful species, tolerably abundant in all the scrub lands of the Herbert river and coast-range. Their note is a broken "coo," prolonged into a rolling guttural sound at the end; they may be heard at least half a mile off. But, owing to the dense nature of the scrubs, the birds are at all times difficult to

* Continued from P. Z. S. 1875, p. 603.

† Where no references are given, the names are taken from Gould's 'Hand-book.'

obtain, although not rare. The female of this species has undoubtedly been described and figured under the name of *L. cyano-virens*. The young resemble those of *L. swainsonii*, particularly in having narrow yellow margins to the primaries and secondaries, and to the tips of the feathers on the chest and breast; they do not show the forked or split feathers on these parts before the end of the second year, although the green bands on the flanks are conspicuous in the nestling.

176. *MEGALOPREPIA MAGNIFICA*.

I found this species abundant, and very variable in size.

177. *MEGALOPREPIA ASSIMILIS*.

Although this bird is so much smaller than the preceding species in all its admeasurements, it should scarcely be considered a distinct species, as it differs in no other way except in size from *M. magnifica*. I have examined numerous examples of both *M. magnifica* and *M. assimilis*, and consider the latter rather the connecting link to *M. puella*. This last species has lately been noted from Cape York, whence I received a fine pair procured there by Mr. J. A. Thorpe.

178. *LEUCOMELENA NORFOLCIENSIS*.

We procured several specimens of this fine and scarce Pigeon. They were found feeding in the same trees (*Acmena* and *Jambosa*) with *Ptilinopus*, *Megaloprepia*, and others.

179. *MYRISTICIVORA SPILORRHOA*.

During the months from October until the end of April, when they leave, this species is very numerous all over the Rockingham-Bay district. Early in the morning, as soon as it is light enough, they leave their roosting-places in large flocks, and betake themselves to their feeding-grounds, dispersing over the scrubs and among the various species of *Acmena* and *Jambosa* which line the margins of the Herbert river. Towards evening they assemble, and, leaving the feeding-grounds, return to roost on the mangrove islands in Hinchbrook channel, and around the coast and mouths of the rivers, flying a distance of often 40 miles night and morning. The tops of the mangroves on which they roost are literally white with birds; and, notwithstanding the disturbance and havoc committed among them by shooting-parties, they continue to arrive until dark. They breed on these islands, building little or no nest, a few sticks placed so as to prevent the eggs from rolling away being considered sufficient. Young almost fully fledged were brought to me in January; but many at this time were laying their eggs. When freshly killed the concealed portions of the feathers on the body are of a beautiful delicate rosy salmon hue, which soon fades after death.

180. *LOPHOLAIMUS ANTARCTICUS*.

I once met with a flock flying over some of the dense scrubs of the Herbert river, and also a few on the wing near the township of

Cardwell. They were not considered plentiful in the district. Those obtained about Cape York are considerably less in size, and appear more plentiful in that district.

181. *CHALCOPHAPS CHRYSOCHLORA*.

This pretty Ground-Dove is tolerably plentiful over the whole district. I noticed it frequently close to residences and in gardens within the township.

182. *LEUCOSARCIA PICATA*.

This species is not by any means so plentiful as in the brushes of New South Wales, where the woods resound with its monotonous, deep, and melancholy call. It frequents alike the dry scrubs on the margins of rivers, and those which clothe the damp stony sides of the Sea-view range. Its flesh is highly esteemed, and resembles that of a Quail. The bird is strictly a ground-feeder, only taking to the trees when disturbed, where, perched on some thick branch, it remains motionless until apparently all danger is over. The eggs are two in number, of the usual form, but comparatively small.

183. *PHAPS CHALCOPTERA*.

We met with this bird rarely, and only on the sterile sandy flats in open forest country beyond the coast range, where numerous species of *Acacia* abound, on the seed of which they feed.

184. *GEOPHAPS SCRIPTA*.

Occasionally found in open forest-country. Met with only in one place, about 30 miles inland. I found it breeding in the Burnett-river district in December 1870. The nest was placed beside a tuft of grass, and consisted of a shallow hole lined with a few blades of dry grass. The eggs were two in number, and of a creamy white.

185. *ERYTHRAUCHENA HUMERALIS*.

186. *GEOPELIA TRANQUILLA*.

187. *GEOPELIA PLACIDA*.

I found these species by no means rare. They prefer the open country, and feed on the seeds of the "Grass-tree," *Xanthorrhæa*, and various species of *Acacia* and other leguminous plants abundant in the sandy tracts about Cardwell.

188. *MACROPYGIA PHASIANELLA*.

This fine species, so abundant in the "brushes" of the Richmond and Clarence rivers in New South Wales, is far from being common in the Herbert-river district; I met with a pair on one occasion only. It was quite an unknown species to most of the settlers in those parts.

189. *TALEGALLUS LATHAMI*.

However plentiful this species may have been formerly in the Rockingham-Bay district, it is now very scarce, only one having been obtained

during my visit. They are still plentiful in the New-South-Wales scrubs. I found that two or more females visited the same mound to lay their eggs in; and when this is the case the mound is often twice as large as an ordinary mound. It seems probable that several individuals assist in scratching the mound together, when a space often 50 yards in diameter (on level ground) is found cleared of almost every fallen leaf and twig. The mounds are often 6 feet in height, and 12 to 14 wide at the base; sometimes they are more conical. The central portion consists of decayed leaves mixed with fine débris, the next of coarser and less rotted materials; and the outside is a mass of recently gathered leaves, sticks, and twigs not showing signs of decay. In opening the nest these are easily removed, and must be carefully pushed backwards over the sides, beginning at the top. Having cleared these, and obtained plenty of room, remove the semidecayed strata; and below it, where the fermentation has begun, in a mass of light fine leaf-mould will be found the eggs placed with the *thin end downwards*, often in a circle, with three or four in the centre, about 6 inches apart. At one side, where the eggs have been first laid, they will probably be found more or less incubated; but in the centre, where the eggs are placed last, quite fresh; and if only one pair of birds have laid in the mound, about twelve to eighteen eggs will be the complement, and will be found arranged as described above. On the other hand, if several females resort to the same nest, the regularity will be greatly interfered with, and two or three eggs in different stages of development will be found close to one another, some quite fresh, others within a few days of being hatched. There are usually ten eggs in the first layer, five or six in the second, three or four only in the centre. I found that the females return every second day to lay, but never succeeded in ascertaining which of the parent birds opens the nest. The aborigines informed me that the male bird always performs this office; and I usually found my black boys very correct in their statements of this kind. After robbing a nest it is necessary to replace the different layers as they are found; if the lowermost is too much mixed up with the others, or the top tumbled into the excavations made in the bottom one, the birds will invariably forsake the mound; so that I found it always necessary to carefully replace the different layers as I found them. It is not so with the *Megapodius tumulus*, which does not seem to care how much the mound is tumbled about, so that there is sufficient débris left to burrow in; and, indeed, should there not be, they quietly set to work and scratch it together again. The mounds of the *Tallegallus* are seldom found on a great incline when a level spot can be obtained. They frequently bring the débris from a considerable distance; and in one instance on the Richmond river I noticed a place where about a cartload had been scratched through a shallow part of a creek 3 or 4 inches deep in water, and up the other side of the bank to the mound, which was over 40 yards distant. The débris is *always thrown behind them*. The greatest number of eggs taken from one mound at one time was thirty-six. This was a very old

mound, and resorted to by several individuals. The eggs vary much in size, and in shape from almost round to a long oval, or pointed at the thin end; their usual form is an oval slightly smaller at one end. The shell is very thin, minutely granulated, and snow-white in colour. They are of a very delicate flavour, resembling in taste those of the Plovers.

190. MEGAPODIUS TUMULUS.

This Mound-raiser is very plentiful north after passing Port Denison; I found it also in tolerable numbers as far south as the Pioneer river. They are strictly confined to the dense scrubs, and seldom, if ever, seen elsewhere. Their noisy cackling at night frequently disturbed us when encamped near one of their favourite resorts; and during the day their hoarse note at once betrays their presence. On the Herbert river they are not much sought after as an article of food either by the natives or whites; for as their eggs are esteemed a delicacy the birds themselves are not much molested. I examined several nests in March; and although it was not the regular breeding-season, yet fresh eggs were obtained, and newly hatched young were found singly here and there throughout the denser parts of the brush. Some of the mounds were very ruthlessly destroyed by the whites, and scattered over the ground. This, however, did not cause the birds to forsake the place; and out of one large mound, which had been very roughly handled, two new ones were formed, about 10 yards apart, on the base of the old one, which was so matted and interlaced with roots from the neighbouring trees that it appeared to me a marvel how the birds could burrow into it the great length they did; and having once laid their eggs there, how ever the young birds found their way out through the maze of roots is still a mystery. Once out, however, and their wings dry, they are able to take care of themselves, but remain about the mounds for a day or so, as if waiting for some of their companions; but in less than a week from the day they are hatched they may frequently be seen at least a quarter of a mile away, and well able to fly about. I met one little fellow, only 5·5 inches in total length, fully a mile away from the nearest mound; he flew up and settled in a tree, about 20 feet from the ground. The wings and feet were remarkably developed for so small a bird, which could scarcely be more than four weeks old. Upon more than one occasion I have seen the birds busy at their mound, or feeding near it, but was never so fortunate as to meet with them in the act of burrowing. The largest mound I met with was about 50 feet in length, 10 in height, and 14 feet in width at the base, 8 or 10 on the summit. It seemed to be more like several mounds combined; and certainly more than two pairs of birds frequented it. While stationed gun in hand watching for Cassowaries (*Casuarinus australis*), I noticed on one occasion five birds arrive at this mound in company; they came very close to me, making a chuckling noise jerked out from their throat, and not unlike that of a domestic fowl when driven from its nest, but not so loud. Usually only a pair are met with together. Their flight is

heavy ; and they do not readily take wing, unless pursued by a dog, when they rise with a considerable flapping to the most convenient branch, where they are easily approached and shot. Their flesh is dark, rank, and tough.

The young, about 5 inches in length, are of a dull brown, ashy brown on the sides of the face, neck, and mantle, and on the abdomen of a lighter ashy brown, rufous brown on the flanks, and brown washed with rufous on the breast ; the back, rump, and tail of a rich rufous brown ; primaries dark brown ; interscapular region and upper wing-coverts dark brown, tipped with light rufous ; the secondaries and scapulars freckled, and margined on the outer web with light rufous ; the outer series of secondary-coverts and outer scapulars barred and freckled with the same colour ; iris dark brown ; feet yellow. Total length 5·5 inches, bill ·45, wing 4·5, tarsus 1 inch, tail a tuft of down about 1 inch in length.

191. TURNIX VARIUS.

192. TURNIX PYRRHOTHORAX.

193. TURNIX VELOX.

I met with these three species occasionally. They were looked upon as scarce birds in the Herbert-river district. *T. varius* prefers the more open forest land ; the other two I found on the margins of the open grass-flats, and in the vicinity of water-holes and lagoons &c.

194. SYNOICUS AUSTRALIS.

195. EXCALFACTORIA AUSTRALIS.

I found both species plentiful in the swampy parts of the grass-beds, and on grassy ridges generally throughout the district, and obtained young a few days old of *S. australis* in March.

196. DROMAIUS NOVÆ-HOLLANDIÆ.

Emus were not plentiful, and so hunted that they are only found now in the unfrequented parts of the district. I met their tracks only on one occasion on the inland side of the range, in the basin drained by the Herbert river.

197. CASUARIUS AUSTRALIS.

One of the chief objects of my visit to Rockingham Bay was to become acquainted with the habits of this noble bird. In 1867 I had sent my collector, Edward Spalding, to this district for this purpose, but with very poor results. While in Brisbane on my way up I purchased by telegram a fine young living specimen, the first that had been obtained and reared, and ultimately succeeded in bringing it alive to Sydney and shipping it to the Society, where I am glad to hear it arrived safely*. I found also that several very young Cassowaries had been obtained, and, for the first time, a nest and eggs had been found. This was great news ; and I need not relate how I made

* See P. Z. S. 1875, p. 469.—Ep.

all haste to the Herbert-river Police Camp, where I was most hospitably entertained and welcomed by Inspector Johnstone, who was the first to rediscover and bring under the notice of others the existence of this remarkable species. I found Inspector Johnstone a true sportsman, as well as an ardent lover of Nature, a zealous and energetic naturalist, and a careful observer. I am indebted to this gentleman for much valuable information respecting the manners and customs of the aborigines, and notes on the habits of many birds and animals new to me, and especially for information on the present species.

The Australian Cassowary is a denizen of the dense dark scrubs scattered over the district of Rockingham Bay, and extending as far north as the Endeavour river. It was tolerably plentiful only a few years ago even in the neighbourhood of Cardwell; but since the advent of sugar-planters &c. on the Herbert river and adjacent creeks, these fine birds have been most ruthlessly shot down and destroyed for the sake of their skins, several of which I saw used for hearth-rugs and door-mats. Formerly they were easily enough procured; but latterly so wary have they become, and their numbers so decreased, that it is only with the greatest amount of patience even a stray shot can be obtained. I know of no bird so wary and timid; and although their fresh tracks may be plentiful enough, and easily found in the soft mud on the sides of the creeks, or under their favourite feeding-trees, yet the birds themselves are seldom now seen. During the day they remain in the most dense parts of the scrubs, wandering about the sides of the watercourses and creeks, diving in through the bushes and vines at the slightest noise. Towards evening and early in the morning they usually visit their favourite feeding-trees, such as the native figs, Leichardt-tree (*S. leichardti*), and various species of *Acmena*, *Jambosa*, *Davidsonia*, &c.; they appear to be particularly fond of the astringent fruit of the Leichardt-trees and of a species of *Maranta*, which produced bunches of large seed-pods filled with juicy pulp, resembling in appearance the inside of a ripe passion-fruit (*Passiflora edulis*). Fruits and berries of all kinds are eagerly sought after; the tame semiadult bird which I had the pleasure of forwarding to the Society (1875) became so fond of the fruit of the Cape-Mulberry that he would allow no one to come near the tree he had taken possession of. This bird has frequently devoured at a time as much as 3 quarts of "Loquats" (fruit of *Eriobotria japonica*), and several fair-sized oranges whole, besides its usual amount of bread per diem (about 3 pounds). In nature, I found that in the afternoons they frequently came out and walked along the scrubs, or along the side of the river or creeks, and swallowed large quantities of pebbles and small rough-edged stones. In confinement, plantains and sweet potatoes (in large pieces, which they can swallow whole) are a favourite food, while nothing seems to come amiss to them—grasshoppers, spiders, earth-worms, cockroaches, caterpillars of all kinds, dough, and even raw meat. They ascertain the flavour of their diet by first taking it up in the tip of their bill and giving it a slight pinch; and if not suitable,

they throw it aside. I found they invariably refused *green Loquats*, but always picked them up in the bill first to try them. In confinement they become very tame, and may be allowed to walk about the place without restraint, coming when called, or more often running after and following any one who is accustomed to feed them. If disappointed or teased, they not unfrequently "show fight" by bristling up their feathers, and kicking out sideways or in front with force sufficient to knock a strong man down—a feat I have witnessed on more than one occasion. These birds are very powerful, and dangerous to approach when wounded. On more than one occasion a wounded bird has caused a naturalist to take to a tree; the sharp nail of the inner toe is a most dangerous weapon, quite equal to the claw of a large Kangaroo, and capable of doing quite as much execution.

I found the Cassowaries to be excellent swimmers, and frequently tracked them across a good-sized creek or river. On Hinchinbrook Island, situated about $1\frac{1}{2}$ mile from the mainland, they have been frequently met with; and I have myself heard them calling at night and early in the morning as I passed up the channel, at a distance of at least 2 miles from them. Mr. Johnstone informs me he met with one swimming across a river of considerable width during his explorations while on the "North-east-Coast Exploring-Expedition." Their note, most usually emitted by the male, is a series of harsh guttural prolonged croakings quickly repeated, and continued for about 3 minutes; it is very loud, and may be detected across the water at a distance of at least 3 miles on a still night. I have listened to it resounding through the scrubs at a distance of $1\frac{1}{2}$ mile on land, and then thought it close and one of the most unearthly noises I ever heard. They breed during the months of August and September. The first nest procured was found by some of Inspector Johnstone's black troopers, from whom Mr. Miller, a settler on the Herbert river, purchased some of the eggs. One which he kindly presented to me is of the *light-green* variety mentioned hereafter. The nest consists of a depression among the fallen leaves and débris with which the ground in the scrubs is covered, with the addition of a few more dry leaves. The place selected is always in the most dense part, and well concealed by entangled masses of vegetation. The eggs were five in number in the only two instances recorded; and in both cases one of the eggs in each set differed from the other, being of a light-green colour, and having a much smoother shell. The others all have a rough shell, covered rather sparingly with irregular raised patches of dark but bright green on a lighter-green and smooth ground. In the pale (No. 1) variety these raisings on the shell are closer together, and not so well developed; in both varieties they are more thinly spread over the central portion than at the ends. On the whole they closely resemble the eggs of *Casuaris bennettii*, in which similar variations are noticeable; but they are larger, and of a greater diameter, being greatest in the middle. I am indebted to Inspector Robert Johnstone for the fine series of the eggs of this species which at present grace my collection.

The following are measurements of some of the specimens of the eggs of both species :—

Casuarinus australis.

	Length in inches.		Width in inches.
No. 1. Light-green smooth shell ..	5.33	×	3.73
No. 2. Dark-green rough shell . . .	5.3	×	3.88

Casuarinus bennettii.

No. 1. Light-green smooth shell ..	5.65	×	3.54
No. 2. Light-green rough shell ..	5.32	×	3.31
No. 3. Light-green rough shell ..	5.34	×	3.4
No. 4. Dark-green rough shell. . . .	5.2	×	3.32

The young of *Casuarinus australis* are of a dull rusty brown, the feathers having frequently a blackish shaft-stripe, giving to the back a streaked appearance. After the first year the plumage takes a deeper lighter brown hue, and black feathers begin to appear mixed with brown, some being party-coloured. After the second season, at the age of 18 to 24 months, the black feathers predominate, and the helmet, which has hitherto been undeveloped, more like the shield of a coot (*Fulica*), begins to show a *keel or ridge in the centre*, which rapidly increases in height. The skin round the head, on which still remain a few brownish hair-like feathers, begins to become wrinkled and coloured, varying from bluish-green to orange on the lower part, and bright blue on the sides of the neck, the wattles becoming carmine. The helmet still remains comparatively small and undeveloped long after the wattles and naked parts of the neck become coloured. I believe that the helmet does not attain its full size until the fourth or fifth year at least. In traversing the scrubs the head is carried low to the ground, and the vines and branches of trees striking the helmet slide over it on to the back. Otherwise in the dense vine-scrubs bordering the Herbert river and elsewhere progress would be greatly impeded; but as it is, the Cassowaries traverse the scrubs with wonderful speed, jumping over fallen trees and logs when in the way. A young bird (the identical specimen, I believe, forwarded by his Excellency the Marquis of Normanby to the Society), while in the possession of Inspector Johnstone, during my visit succeeded in jumping out of its yard over a fence more than 6 feet in height. I measured the fence, and found it 6 feet 6 inches to the top rail, on which its feet-marks were plainly visible; the length of the yard was only 12 × 12 ft. I found the adult Cassowaries in full moult in March; but the new feathers had not all made their appearance in May. During these months specimens in confinement were remarkably irritable and frequently sulky, even refusing their food (which they invariably do when unwell), and were at times very spiteful, even attacking their keepers; but strangers chiefly come in for a share of their dislike. At all times I have noticed they are very fond of bathing; the semiadult bird before alluded to, which I forwarded to the Society, was remarkable

in this respect, and might frequently be seen waiting at the pump in in the yard until some one came for water, when he would sit down quietly under a copious shower, stretching out his neck and ruffling his feathers up to allow the water to reach the skin. They do not like any exposure, and always endeavour to get out of the sun. In the wild state they seldom leave the scrubs, and certainly never do so in the heat of the day unless hard pressed; but on the whole they are remarkably hardy, and bear confinement well. In February last (1875) I purchased four fine young birds about 6 months old, which were obtained from some settlers in the Herbert-river district; these also I forwarded to England during the same month.

7. Description d'un nouveau Cerf tacheté du pays d'Ussuri méridional, *Cervus dybowskii*. Par L. TACZANOWSKI, C.M.Z.S.

[Received December 17, 1875.]

En 1868, le Capitaine Przewalski a observé pour la première fois des cerfs tachetés dans ce pays, et dit dans son ouvrage imprimé en russe en 1870, que ces animaux abondent dans les grands forêts des côtes de la mer du Japon et de la région des affluents de l'Ussuri, en indiquant la rivière Tina pour limite septentrionale de la distribution de ce ruminant, de sorte qu'il n'en trouve point dans la région centrale du cours de l'Ussuri. M. Przewalski l'a nommé *C. axis*, Erxl. (?), et dit ensuite qu'il y a aussi dans ce pays un second cerf tacheté d'une taille intermédiaire entre le précédent et le cerf commun; et que sa peau d'été ne diffère en rien de celle de son *C. axis*, mais en hiver elle est d'un gris foncé, surtout au dos, où le poil est presque noir avec des taches blanchâtres à peine distinctes. Il a vu plusieurs fois des individus de cette espèce, sans pouvoir s'en procurer.

Le Dr. Dybowski vient de me fournir cinq peaux de ce cerf, parmi lesquelles il y a quatre mâles de différents âges (deux qui ont atteint le développement entier, un jeune à dagues simples, un d'âge intermédiaire) et une femelle. Ces cerfs me paraissent appartenir à cette dernière forme, celle plus forte du Cap. Przewalski, et tous ces exemplaires ont leur robe d'hiver. L'espèce paraît être inédite; je propose donc de le nommer *C. dybowskii*, en l'honneur de mon ami, zoologiste plein de mérite, dont le séjour de dix ans dans la Sibérie orientale a sensiblement augmenté les connaissances de la faune de ce pays, si curieux et si insuffisamment exploré en faits d'histoire naturelle.

Ce cerf est d'une taille plus forte que celle du daim (*C. dama*) et beaucoup plus petite que celle du cerf commun.

Les bois sont élevés et minces, moins penchés que ceux du *C. elaphus*, et moins recourbés sur les côtés, à trois andouillers simples, dont le basilaire et le suivant sont dirigés en avant un peu obliquement sur les côtés et légèrement courbés, et le troisième dirigé vers le milieu et très peu en arrière; ces embranchements sont médiocres, et pres-